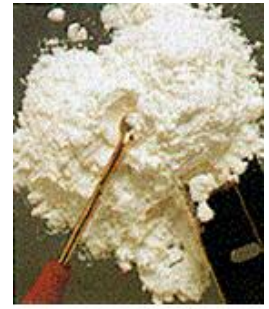




Vials of "crack" cocaine

# COCAINE

## Pharmacology



Powder cocaine

Cocaine, the most potent stimulant of natural origin, is extracted from the leaves of the coca plant (*Erythroxylon coca*), which is indigenous to the Andean highlands of South America.

Illicit cocaine is usually distributed as a white crystalline powder or as an off-white chunky material. Cocaine base is converted into the powder form, which is usually cocaine hydrochloride, by diluting it with other substances. The substances most commonly used in this process are sugars, such as lactose, inositol, and mannitol, and local anesthetics, such as lidocaine. The adulteration of cocaine increases its volume and thus multiplies profits. The major routes of administration of cocaine are snorting, injecting, and smoking (including freebase and crack cocaine). Snorting is inhaling cocaine powder through the nose where it is absorbed into the bloodstream through the nasal tissues. Injecting is using a needle to release the drug directly into the bloodstream. Smoking involves inhaling cocaine vapor or smoke into the lungs, where it is absorbed into the bloodstream as quickly as when it is injected.

"Crack" is the street name given to cocaine that has been processed from cocaine hydrochloride to a ready-to-use free base for smoking. Rather than requiring the more volatile method of processing cocaine using ether, crack cocaine is processed with ammonia or sodium bicarbonate (baking soda) and water and heated to remove the hydrochloride, thus producing a form of cocaine that can be smoked. The term "crack" refers to the crackling sound heard when the mixture is heated, presumably from the sodium bicarbonate.

On the illicit market, crack, or "rock," is sold in small, inexpensive dosage units. Smoking this form of the drug delivers large quantities of cocaine to the lungs, producing effects comparable to intravenous injection. These effects are felt almost immediately after smoking, are very intense, and do not last long.

There is great risk associated with cocaine use whether the drug is ingested by snorting, injecting, or smoking. Excessive doses of cocaine may lead to seizures and death from respiratory failure, stroke, cerebral hemorrhage, or heart failure. There is no specific antidote for cocaine overdose. Evidence suggests that users who smoke or inject cocaine may be at even greater risk than those who snort it. Cocaine smokers suffer from acute respiratory problems including coughing, shortness of breath, and severe chest pains with lung trauma and bleeding. In addition, it appears that compulsive cocaine use may develop even more rapidly if the substance is smoked rather than snorted. The injecting cocaine user is at risk for transmitting or acquiring HIV infection/AIDS if needles or other injection equipment are shared.

### Use

**Overall usage:** Estimates of the current number of those who use cocaine regularly (at least once per month) vary. Although cocaine use has not significantly changed over the last six years, the number of first-time users has increased. While numbers indicate that cocaine is still a threat to the United States, cocaine use is significantly less prevalent than it was during the early 1980s. Cocaine use peaked in 1982.

**Use among youth:** Lifetime use of crack cocaine increased among eighth, tenth, and twelfth graders, from 1991 to 1999.

### Availability

Cocaine is readily available in all major U.S. metropolitan areas. Cocaine use has stabilized across the country. In the West, cocaine use is down perhaps because some users are switching to methamphetamine, which is cheaper and provides a longer-lasting high.

**Sources**

In 1999, Colombia remains the world's leading producer of cocaine. Three-quarters of the world's annual yield of cocaine is produced there, both from cocaine base imported from Peru and Bolivia and from locally grown coca. There was a 28 percent increase in the amount of potentially harvestable coca plants in Colombia in 1998. This, combined with crop reductions in Bolivia and Peru, made Colombia the nation with the largest number of acres of coca under cultivation.

**Trafficking**

Cocaine shipments from South America transported through Mexico or Central America are generally moved overland or by air to staging sites in northern Mexico. The cocaine is then broken down into smaller loads for smuggling across the U.S.-Mexico border. The primary cocaine importation points in the United States are in Arizona, southern California, southern Florida, and Texas. Typically, land vehicles are driven across the Southwest Border. Cocaine is also carried in small, concealed, kilogram quantities across the border by couriers known as "mules," who enter the United States either legally through ports of entry or illegally through undesignated points along the border. Colombian traffickers have also started using a new concealment method whereby they add chemical compounds to cocaine hydrochloride to produce "black cocaine." The cocaine in this substance is not detected by standard chemical tests or drug-sniffing canines.

Cocaine traffickers from Colombia have also established a labyrinth of smuggling routes throughout the Caribbean, the Bahama Island chain, and South Florida. They often hire traffickers from Mexico or the Dominican Republic to transport the drug. The traffickers use a variety of smuggling techniques to transfer their drug to U.S. markets. These include airdrops in the Bahama Islands or off the coast of Puerto Rico, mid-ocean boat-to-boat transfers and the commercial shipment of multi-tons of cocaine through the port of Miami. Bulk cargo ships are also used to smuggle cocaine to staging sites in the western Caribbean Gulf of Mexico area. These vessels are typically coastal freighters that carry an average cocaine load of approximately 2.5 metric tons. Commercial fishing vessels are also used for smuggling operations. In areas with a high volume of recreational traffic, smugglers use the same types of vessels, such as go-fast boats, as those used by the local population.